

AMENDMENTS TO THE CLAIMS

Claims 1-20 (Canceled)

Claim 21 (Currently Amended) A method of X-ray inspection of a vertical section of a sample, comprising:

arranging an X-ray source and an X-ray detecting device so as to face each other with the sample between them;

swinging the X-ray detecting device in translational motion about a vertical straight line as an axis, the vertical straight line lying in a plane of the vertical section of the sample, while maintaining an incidence plane of the X-ray detecting device parallel to the vertical section of the sample;

applying X-rays to the sample with the X-ray source while rotating the X-ray source about the straight line in synchronization with said swinging of the X-ray detecting device; and

detecting X-rays passing through the sample with the X-ray detecting device to produce a vertical sectional image of the sample.

Claim 22 (Previously Presented) The method of claim 21, wherein the sample is placed on a stage and the section of the sample is vertical to the stage.

Claim 23 (Cancel)

Claim 24 (Previously Presented) The method of claim 21, wherein the sample is placed on a stage and the straight line is vertical to the stage.

Claim 25 (Currently Amended) An X-ray inspection apparatus, comprising:

an X-ray source;

an X-ray detecting device operable to detect X-rays, wherein said X-ray detecting device and said X-ray source are positioned relative to each other so that a sample can be placed there between

and so that X-rays emitted from said source to pass through a sample can be detected by said X-ray detecting device to produce a vertical sectional image of the sample, said X-ray detecting device having an X-ray incidence plane arranged to be parallel to a vertical straight line;

a swinging means for swinging said X-ray detecting device in translational motion about the straight vertical line as an axis while said X-ray incidence plane is maintained facing in the same direction; and

a rotating means for rotating said X-ray source about the vertical straight line as an axis of rotation in synchronization with said X-ray detecting device.

Claim 26 (Previously Presented) The apparatus of claim 25, wherein:

a stage is located between said X-ray detecting device and said X-ray source for having the sample placed thereon such that a subject section of the sample is in a plane containing the straight line and parallel to said X-ray incidence plane; and

the section is vertical to said stage.

Claim 27 (Cancel)

Claim 28 (Previously Presented) The apparatus of claim 25, wherein the straight line is vertical to said stage.

Claim 29 (Previously Presented) The apparatus of claim 26, wherein the straight line is vertical to said stage.

Claim 30 (Previously Presented) The apparatus of claim 25, and further comprising a sliding mechanism for sliding said X-ray detecting device in a direction perpendicular to said X-ray incidence plane.

Claim 31 (Previously Presented) The apparatus of claim 30, and further comprising a stage transfer device for two-dimensionally transferring a stage on which the sample is placed.

Claim 32 (Previously Presented) The apparatus of claim 25, and further comprising a stage transfer device for two-dimensionally transferring a stage on which the sample is placed.

Claims 33-34 (Cancel)